

# TRAITÉ DE COOPÉRATION EN MATIÈRE DE BREVETS

Expéditeur : L'ADMINISTRATION CHARGÉE DE  
LA RECHERCHE INTERNATIONALE

Destinataire :

voir le formulaire PCT/SA/220

## PCT

### OPINION ÉCRITE DE L'ADMINISTRATION CHARGÉE DE LA RECHERCHE INTERNATIONALE (règle 43bis.1 du PCT)

Date d'expédition

(jour/mois/année) voir le formulaire PCT/SA/210 (deuxième feuille)

Référence du dossier du déposant ou du mandataire  
voir le formulaire PCT/SA/220

#### POUR SUITE À DONNER

Voir le point 2 ci-dessous

Demande internationale No.  
PCT/FR2005/051404

Date du dépôt international (jour/mois/année)  
27.03.2005

Date de priorité (jour/mois/année)  
13.04.2004

Classification internationale des brevets (CIB) ou à la fois classification nationale et CIB  
G21K1/00

Déposant  
E-QUANTIC COMMUNICATIONS

1. La présente opinion contient des indications et les pages correspondantes relatives aux points suivants :

- ☒ Cadre n° I Base de l'opinion
- ☐ Cadre n° II Priorité
- ☐ Cadre n° III Absence de formulation d'opinion quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle
- ☐ Cadre n° IV Absence d'unité de l'invention
- ☒ Cadre n° V Déclaration motivée selon la règle 43bis.1(a)(i) quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle; citations et explications à l'appui de cette déclaration
- ☐ Cadre n° VI Certains documents cités
- ☐ Cadre n° VII Irrégularités dans la demande internationale
- ☐ Cadre n° VIII Observations relatives à la demande internationale

#### 2. SUITE À DONNER

Si une demande d'examen préliminaire internationale est présentée, la présente opinion sera considérée comme une opinion écrite de l'administration chargée de l'examen préliminaire international, sauf dans le cas où le déposant a choisi une administration différente de la présente administration aux fins de l'examen préliminaire international et que l'administration considérée a notifié au Bureau international, selon la règle 66.1bis.b), qu'elle n'entend pas considérer comme les siennes les opinions écrites de la présente administration chargée de la recherche internationale.

Si, comme cela est indiqué ci-dessus, la présente opinion écrite est considérée comme l'opinion écrite de l'administration chargée de l'examen préliminaire international, le déposant est invité à soumettre à l'administration chargée de l'examen préliminaire international une réponse écrite, avec le cas échéant des modifications, avant l'expiration d'un délai de 3 mois à compter de la date d'envoi du formulaire PCT/SA/220 ou avant l'expiration d'un délai de 22 mois à compter de la date de priorité, le délai expirant le dernier devant être appliqué.

Pour plus de détails sur les possibilités offertes au déposant, se référer au formulaire PCT/SA/220.

3. Pour de plus amples détails, se référer aux notes relatives au formulaire PCT/SA/220.

Nom et adresse postale de l'administration chargée de la  
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# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

# PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

To:

Date of mailing  
(day/month/year)

Applicant's or agent's file reference

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.

International filing date (day/month/year)

Priority date (day/month/year)

International Patent Classification (IPC) or both national classification and IPC

Applicant

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☐ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

## 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/

Date of completion of this opinion

Authorized officer

Facsimile No.

Telephone No.

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**Cadre n° I Base de l'opinion**

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1. En ce qui concerne la **langue**, la présente opinion a été établie sur la base de la demande internationale dans la langue dans laquelle elle a été déposée, sauf indication contraire donnée sous ce point.  
☐ La présente opinion a été établie sur la base d'une traduction de la langue dans laquelle la demande internationale a été déposée dans la langue suivante , qui est la langue de la traduction remise aux fins de la recherche internationale (selon les règles 12.3 et 23.1.b)).
2. En ce qui concerne **la ou les séquences de nucléotides ou d'acides** aminés divulgués dans la demande internationale, le cas échéant, la recherche internationale a été effectuée sur la base des éléments suivants :
  - a. Nature de l'élément :  
☐ un listage de la ou des séquences  
☐ un ou des tableaux relatifs au listage de la ou des séquences
  - b. Type de support :  
☐ sur papier sous forme écrite  
☐ sur support électronique sous forme déchiffrable par ordinateur
  - c. Moment du dépôt ou de la remise :  
☐ contenu(s) dans la demande internationale telle que déposée  
☐ déposé(s) avec la demande internationale, sous forme déchiffrable par ordinateur  
☐ remis ultérieurement à la présente administration aux fins de la recherche
3. ☐ De plus, lorsque plus d'une version ou d'une copie d'un listage des séquences ou d'un ou plusieurs tableaux y relatifs a été déposée, les déclarations requises selon lesquelles les informations fournies ultérieurement ou au titre de copies supplémentaires sont identiques à celles initialement fournies et ne vont pas au-delà de la divulgation faite dans la demande internationale telle que déposée initialement, selon le cas, ont été remises.
4. Commentaires complémentaires :

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

**Box No. I      Basis of this opinion**

1. With regard to the **language**, this opinion has been established on the basis of:
  - ☐ the international application in the language in which it was filed
  - ☐ a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material
    - ☐ on paper
    - ☐ in electronic form
  - c. time of filing/furnishing
    - ☐ contained in the international application as filed
    - ☐ filed together with the international application in electronic form
    - ☐ furnished subsequently to this Authority for the purposes of search
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**Cadre n° V Déclaration motivée selon la règle 43*bis*.1(a)(i) quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle; citations et explications à l'appui de cette déclaration**

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1. Déclaration

Nouveauté	Oui :	Revendications	
	Non :	Revendications	1-10
Activité inventive	Oui :	Revendications	
	Non :	Revendications	1-10
Possibilité d'application industrielle	Oui :	Revendications	1-10
	Non :	Revendications	

2. Citations et explications

**voir feuille séparée**

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

**Box No. V**      **Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1.    Statement

Novelty (N)	Claims	_____	YES
	Claims	_____	NO
Inventive step (IS)	Claims	_____	YES
	Claims	_____	NO
Industrial applicability (IA)	Claims	_____	YES
	Claims	_____	NO

2.    Citations and explanations:

**Concerning the item V**

**Motivated declaration as of the novelty, the inventive activity and the possibility of industrial applications; citations and explanations to support this declaration.**

It is referred to the following documents:

D1: XP2304655

D2: XP8038352

1. The present filling does not fulfill the conditions listed in article 33(1) PCT, the object of claim 1 not being conform to the novelty criteria defined at article 33.2 PCT.

Claim 1 tries to characterize a process to modify the half-life of isomer nuclides, which are in a metastable state, in that:

- It provides isomer nuclides of which the value of the half life varies from the value of the initial half life (which is less than the theoretical one) to the value of the theoretical half life of the said nuclide, then which increase over the said theoretical half life, and
- That one uses the gamma radiation emitted during the de-excitation.

Neither said utilization, nor the means to obtain some metastable states of variable half life being defined, the process to modify the duration of the half life of isomer nuclides of present claim 1 is only characterized by its preamble, which is equivalent to say that its technical content is not new (refer to point VIII of the present opinion).

This is further demonstrated by the documents cited in the international search report. For example, document D1 describes (see page 695, last paragraph and page 698, last paragraph):

A process to modify the probability of de-excitation of isomer nuclides, in which one prepares a sample containing isomer nuclides having a metastable state, with irradiation by the Bremsstrahlung X-ray generator with an energy higher than the excitation threshold of said isomer nuclides, in order to excite said isomer nuclides to their metastable state, in such a way that the half life of each excited isomer nuclide of the sample be less than the theoretical half life of said nuclide (accelerated de-excitation), the probability of accelerated de-excitation being a function of the power of the irradiation source.



Thus, the object of claim 1 is not new (art. 33.2 PCT).

2. The same argument applies to the object of the corresponding dependant claim 5, concerning the value of the initial half-life to be obtained, for the excited isomer nuclides, which form the so called characterization part of claim 1.
3. Document D1 also describes (same paragraphs) the use of a sample containing a isomer nuclide having a metastable state.  
The object of dependant claim 2 is thus not new.
4. Document D1 also describes (refer to page 696, second paragraph) a tool comprising an excitation apparatus for the implementation of the process of claim 1.  
The object of the independent claim 9 is thus not new.
5. The independent claim 10 refers to the use of a sample containing metastable nuclides having a half-life, as obtained through the process of claim 1, in order to generate a variable quantity of radiation in time (which is inversely proportional to the half life of metastable nuclides). For the same reasons as those listed in above paragraph 1, thus, the object of claim 10 consists in a simple use of excited isomer nuclides, which is a current usage by those skilled in the art (refer for example to D2, page 10, last paragraph).  
Hence, the object of claim 10 is not new.
6. The dependant claims 3-4, 6-8 contains no characteristic which, in combination with those of any of the claims to which they refer, define an object which satisfy to the requirement of PCT concerning the novelty, or the inventiveness, for the following reasons:  
The use of samples containing a plurality of isomer nuclides and / or under different physical forms, is an obvious development to those skilled in the art.

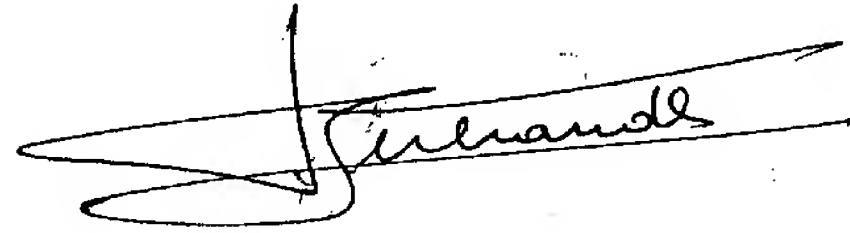


### **Concerning item VIII**

The present filing seems to be based upon the hypothesis that some isomeric nuclides, after irradiation with entangled gamma rays, can de-excite according to a probability curve variable in time, thus, generating a radiation of variable intensity versus time (see description, page 3, lines 2-12). However, the description does not give evidence that such an effect does exist. In the present state of knowledge, some isomeric nuclides, irradiated under the specific conditions (as for example these claimed in the preamble of claim 1 and described in D1), present an instantaneous accelerated de-excitation (prompt), not durable in a significant fashion in time.

Due to the absence in the description and in claim 1 of a clear definition of the means to induce or stimulate this possible property of the isomeric nuclides, this very property cannot be considered as an invention, according to Article 6 PCT (see Guidelines, P-III,9.04).

I certify that this document is the English translation,  
to the best of my knowledge, of the document  
referenced in the first page.

A handwritten signature in black ink, appearing to read "Desbrandes", with a large, stylized flourish on the left side.

Robert DESBRANDES, inventor